

BOOK OF ABSTRACTS



**4th International Conference
on Community Ecology**

20-22 September 2023 • Trieste, Italy

Effectiveness of different metrics of Floristic Quality Assessment: the simpler, the better?

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Keywords: aquatic habitat, biodiversity, coefficient of conservatism, environmental quality, FQAI, river ecosystem

Vascular plants are good environmental indicators. Thus, floristic inventories have a high potential in environmental management since they reflect the current and past status of the environment. In this study, we used the flora of a suburban riverscape in central Italy to test the performance of the Floristic Quality Assessment (FQA) approach, an expert-based evaluation technique. Ten expert botanists assigned coefficients of conservatism (CC) to 382 plant species. We found statistically significant differences between the values assigned to the inventoried flora by botanical experts. In spite of this, the analysis of pseudo multivariate dissimilarity-based standard errors of CC values assigned by the different experts revealed that, in our case, an assessment by a minimum of five botanists allows characterizing the flora with a stable level of precision. We used the distance from agricultural/urban surfaces as a proxy of anthropogenic disturbance to divide the area around the river in four belts of increasing disturbance. The disturbance gradient was mirrored by median CC values and by the Adjusted Floristic Quality Assessment Index (Adjusted FQAI). Conversely, the Floristic Quality Assessment Index (FQAI), which is based on CC values and on the number of native species, showed increasing values with increasing disturbance. Comparing the performance of median CC values to Ellenberg Indicator Values (EIVs), life forms, and chorotypes, we revealed that the last three indicators may be ineffective in highlighting the conservation status of the environment. We suggest that the use of the median CC values may be a simpler and effective alternative to the calculation of indices in FQA, when the adequacy of the number of experts in minimizing the variability of CC values is a posteriori verified.

Acknowledgments

This study was funded by the Municipality of Asciano (“La Lama” River Contract, funded by Tuscany Region - CUP B39C19000120004). The authors acknowledge the support of NBFC to the Universities of Florence and Siena, funded by the Italian Ministry of University and Research, PNRR, Missione 4 Componente 2, “Dalla ricerca all’impresa”, Investimento 1.4, Project CN00000033.